

Amendments to the Claims

1. (Currently amended) A light-emitting diode characterized by comprising:
an electron injecting electrode, that is, an n-electrode;
a hole injecting electrode, that is, a p-electrode; and
an inorganic light-emitting layer, wherein the light-emitting layer which is disposed
between the n-electrode and the p-electrode so as to respectively contact these electrodes the n-
electrode and the p-electrode in a non-barrier junction manner and which is formed of an
ambipolar inorganic semiconductor material and has a thickness in a range of 10 nm or more and
10 μ m or less,

wherein the ambipolar inorganic semiconductor material is selected from the group
consisting of (a) a group II-VI compound and (b) Zn and at least one element selected from the
group consisting of S, Se and Te.

2. (Previously presented) The light-emitting diode according to claim 1, characterized
in that

the ambipolar inorganic semiconductor material has a dopant concentration of 0.1% or
less in atomic ratio.

3. (Canceled)

4. (Currently amended) The light-emitting diode according to either of any one of
claims 1 and 2 to 3 and 10, characterized in that

the n-type electrode n-electrode includes a layer formed by use of an n-type inorganic

semiconductor material in which an n-type dopant is diffused into the ambipolar inorganic semiconductor material.

5. (Currently amended) The light-emitting diode according to either any one of claims 1 and 2 to 3 and 10, characterized in that

the p-type electrode p-electrode includes a layer formed by use of a p-type inorganic semiconductor material in which a p-type dopant is diffused into the ambipolar inorganic semiconductor material.

6. (Currently amended) The light-emitting diode according to either any one of claims 1 and 2 to 3 and 10, characterized in that

the n-type electrode n-electrode includes a layer formed by use of an n-type inorganic semiconductor material in which an n-type dopant is diffused into the ambipolar inorganic semiconductor material, and the p-type electrode p-electrode includes a layer formed by use of a p-type inorganic semiconductor material in which a p-type dopant is diffused into the ambipolar inorganic semiconductor material.

7. (Currently amended) The light-emitting diode according to either any one of claims 1 and 2 to 3 and 10, characterized in that

a material of a portion contacting the light-emitting layer in at least one of the n-type electrode n-electrode and the p-type electrode p-electrode is formed by use of a material substantially different from the material of the light-emitting layer.

8. (Currently amended) The light-emitting diode according to either any one of claims

1 and 2 to 3 and 10, characterized in that

[[an]] the ambipolar inorganic semiconductor material is formed on a crystalline substrate or a glass substrate, and the n-electrode and the p-electrode are formed on opposing sides of the ambipolar inorganic semiconductor material, wherein the n-electrode and the p-electrode do not so as not to contact each other.

9. (Currently amended) The light-emitting diode according to either any one of claims 1 and 2 to 3 and 10, characterized in that

a first one of the n-electrode [[or]] and the p-electrode is formed on a crystalline substrate or a glass substrate, and [[an]] the ambipolar inorganic semiconductor material is stacked thereon, and a second one of the p-electrode [[or]] and the n-electrode is stacked thereon.

10. (Canceled)

11. (New) The light emitting diode according to claim 1, wherein the light-emitting layer has a uniform composition across its thickness.

12. (New) The light emitting diode according to claim 1, wherein only one such light-emitting layer is formed between the p-electrode and the n-electrode.

13. (New) A light-emitting diode, comprising:

an electron injecting n-electrode;

a hole injecting p-electrode;

an ambipolar light-emitting layer uniformly extending from the n-electrode to the p-

electrode, having a thickness in a range of greater than 10 nm and no more than 100 nm, and comprising one ambipolar semiconductor material selected from the group consisting of (a) a group II-VI compound and (b) Zn and at least one element selected from the group consisting of S, Se and Te.

14. (New) The light-emitting diode of claim 13, wherein the ambipolar light-emitting layer consists of the one ambipolar semiconductor material.

15. (New) The light-emitting diode of claim 13, wherein the one ambipolar semiconductor material is Zn and at least one element selected from the group consisting of S, Se and Te.